

**Drafts**

-5 BRS: compar\$3 same differen\$4 same threshold\$3

Ⓢ Pending

 **Active**

L1: (230) (decod\$3 or decompress\$3) same (P\$1 near2(I adj block\$1 or macroblock\$2 or slice\$2))  
 L2: (34) (decod\$3 or decompress\$3) same (P\$1 near2 (I adj (block\$1 or macroblock\$2 or slice\$2)))  
 L3: (10) (decod\$3 or decompress\$3) same (I adj slice\$2) same (P near2 (frame\$1 or picture\$1 or i...  
 L4: (2872) (decod\$3 or decompress\$3) same (P near2 (frame\$1 or picture\$1 or image\$1))  
 L5: (2) recover\$4 same (I near2 slice\$1) same refresh\$4  
 L6: (18) (I near2 slice\$1) same refresh\$4

**Failed**

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- (0) (decode$3 or decompress$3) same (P$1 near2(I adj (block$1 or macroblock$2 or slice$2))

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 Saved

☛ (69) motion same compensat\$4 same (up adj conver\$5)

27688) compar\$3 same differen\$4 same threshold\$3

(9) (motion same compensat\$4 same (up adj conver\$5)) and (compar\$3 same differen\$4 same threshold\$3)

• (1295) motion same compensat\$4 same field\$3 same frames\$2

Seawater

### Plurals

Highlight all hit terms initially.

(I near2  
slice\$1) same  
refresh\$4

[illegible]

DOCUMENT-IDENTIFIER: US 20010026677 A1

TITLE: Methods and apparatus  
I-slice refreshed MPEG  
play  
mode features on a tele

----- KWIC -----

Summary of Invention Paragraph - BSTX (5):

[0005] When an MPEG encoder is used in the I-frames are broken into slices and distributed as I-slices. MPEG data streams encoded in this

Details Text Image HTML KWIC

	Kind Code	Source	Issue D	Pages	Tit
1		US-PGP	2003062	11	System and
2		US-PGP	2003062	14	Caching sy
3		US-PGP	2003062	16	Command pa
4		US-PGP	2003061	6	Trick mode
5		US-PGP	2003041	6	Slow forwa
6		US-PGP	2003032	12	Artifact-f
7		US-PGP	2003011	7	Modifying
8		US-PGP	2003011	9	Modifying
9		US-PGP	2002122	50	REDUCED RE
10		US-PGP	2002071	16	Client-ass
11		US-PGP	2002051	12	Method and
12		US-PGP	2001100	11	Methods an
13		USPAT	2004012	62	Robust, re
14		USPAT	2004011	17	Client-ass
15		USPAT	2000061	21	Generation
16		USPAT	2000050	17	Varied fra
17		USPAT	1999122	21	Method and
18		USPAT	1999121	17	Method and

Details Text Image HTML



US 20010026677A1

(19) United States

(12) Patent Application Publication  
Chen et al.(10) Pub. No.: US 2001/0026677 A1  
(13) Pub. Date: Oct. 4, 2001

(54) METHODS AND APPARATUS FOR  
TRANSCODING PROGRESSIVE I-SLICE  
REFRESHED MPEG DATA STREAMS TO  
ENABLE TRICK PLAY MODE FEATURES  
ON A TELEVISION APPLIANCE

Related U.S. Application Data

(53) Continuation-in-part of application No. 09/106,709,  
filed on Nov. 20, 1998, which is a non-provisional of  
provisional application No. 60/238,435, filed on Oct.  
6, 2000.

Publication Classification

(51) Int. Cl. H04N 7/26; H04N 5/91  
(52) U.S. Cl. 348/68; 348/111

(57) ABSTRACT

Progressive I-slice refreshed MPEG data streams are transcoded to I-frame based MPEG data streams to enable trick play modes on a television appliance, such as pause, scan forward, scan backward, jump, or still frame displays for use, e.g., in film indexing (chapters). A progressive I-slice refreshed MPEG data stream 10 having I-slices distributed over multiple P-frames is received by a television appliance 300. The P-frames are decoded at decoder 22 to recover the I-slices which make up a complete I-frame. The recovered I-slices are assembled (e.g., by processor 230) into a complete I-frame. The complete I-frame is encoded at an encoder 250. A selected P-frame in the MPEG data stream is replaced with the encoded I-frame (e.g., via multiplexer 255) to provide an encoded I-frame based data stream 200. The I-frame based data stream is stored (e.g., in memory 240) for trick play mode use.

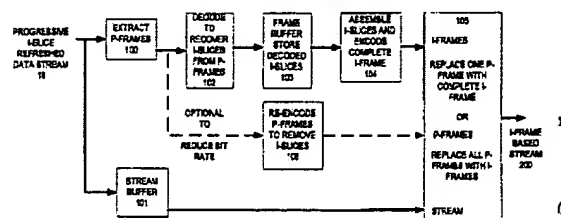
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(21) Appl. No.: 09/847,143

(22) Filed: May 2, 2001



Details Text Image HTML Full

EAST - [Default EAST Workspace 1600x1200 wsp:1]

File View Edit Tools Window Help

Pending

Active

- L1: (226) (decod\$3 or decompress\$3) same ((I or intra) adj (macro
- L2: (3) refresh\$3 same (I with slice\$3) same zero\$3
- L3: (39) refresh\$3 same (I with slice\$3)
- L4: (15) refresh\$3 same (I near3 (macroblock\$3 or slice\$3)) same (
- L27: (25) refresh\$3 same (I near3 (macroblock\$3 or slice\$3))

Search: List Browse Queue Clear

DBs: USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM\_TDB

Default operator: OR

Plurals

Highlight all hit terms initially

refresh\$3 same (I near3 (macroblock\$3 or slice\$3))

DRS term BAR term Image Text HTML

	U	1	Document I	Issue Da	Page	Title	Current O	Current XR	Retrieval	Inventor	S	C	P	2	3	
1	<input type="checkbox"/>	<input type="checkbox"/>	US 20040325	12	Methods and apparatus for	345/720				Eifrig, Robert O. et al.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	<input type="checkbox"/>	<input type="checkbox"/>	US 20040212	12	Method and apparatus to	386/95	386/125			Walls, Frederick	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	<input type="checkbox"/>	<input type="checkbox"/>	US 20030821	28	Video slice and active	725/25	380/200;			Candelore, Brant L. et	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	<input type="checkbox"/>	<input type="checkbox"/>	US 20030821	21	Progressive video refresh	380/211	375/240.13;			Candelore, Brant L. et	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	<input type="checkbox"/>	<input type="checkbox"/>	US 20030814	27	Video scene change	380/210				Candelore, Brant L. et	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	<input type="checkbox"/>	<input type="checkbox"/>	US 20030626	11	System and method for	725/88				Aggarwal, Gaurav et	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	<input type="checkbox"/>	<input type="checkbox"/>	US 20030626	14	Caching system and	725/37	725/40			Aggarwal, Gaurav et	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	<input type="checkbox"/>	<input type="checkbox"/>	US 20030626	16	Command packet system	375/240.25	348/390.1;			Aggarwal, Gaurav et	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	<input type="checkbox"/>	<input type="checkbox"/>	US 20030619	21	Method and apparatus for	375/240.12	375/240.25			Chen, Sherman	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	<input type="checkbox"/>	<input type="checkbox"/>	US 20030327	12	Artifact-free displaying of	375/240.12	375/240.01;			Chen, Xuemin et al.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	<input type="checkbox"/>	<input type="checkbox"/>	US 20021031	37	Rate control for an MPEG	375/240.05	375/240.13;			Wang, Limin et al.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	<input type="checkbox"/>	<input type="checkbox"/>	US 20020523	22	System and method for	386/68	386/111;			MacInnis, Alexander	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	<input type="checkbox"/>	<input type="checkbox"/>	US 20020124	51	Image processing	713/176	380/212;			Maeda, Mitsuru	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	<input type="checkbox"/>	<input type="checkbox"/>	US 20011004	11	Methods and apparatus for	386/68	386/111			Chen, Kun-Pei et al.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15	<input type="checkbox"/>	<input type="checkbox"/>	US 6570922	33	Rate control for an MPEG	375/240.12	375/240.13			Wang, Limin et al.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16	<input type="checkbox"/>	<input type="checkbox"/>	US 6259736	17	Video encoder and video	375/240.13				Chujoh, Takeshi et al.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17	<input type="checkbox"/>	<input type="checkbox"/>	US 6208759	11	Switching between bit-rate	382/232	382/235;			Wells, Nicholas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18	<input type="checkbox"/>	<input type="checkbox"/>	US 6167084	28	Dynamic bit allocation for	375/240.02				Wang, Limin et al.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19	<input type="checkbox"/>	<input type="checkbox"/>	US 5995150	17	Dual compressed video	375/240.12				Hsieh, Peter H. et al.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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